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Manual Training

Ira M. Carley

Cora Champlin

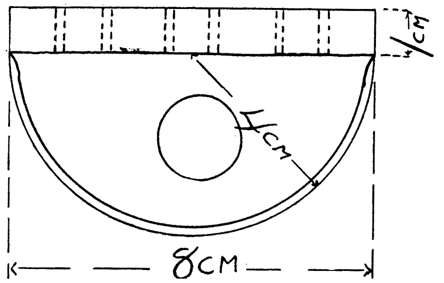
It is intended that a large part of the handwork done in the school shall be directed either toward supplying needs arising in the various occupations of the school, or to the furnishing and decoration of the school-rooms.

In this, the first month of the school year, the work is almost entirely of the former character, as there are several pieces of apparatus needed at once for the work in nature study, art, and the applied arts.

In case the same object is to be made by two or more grades the construction of the object is adapted as nearly as possible to the capability and experience of each grade.

Professional Training Class

Handwork: Construction of apparatus for Nature Study.

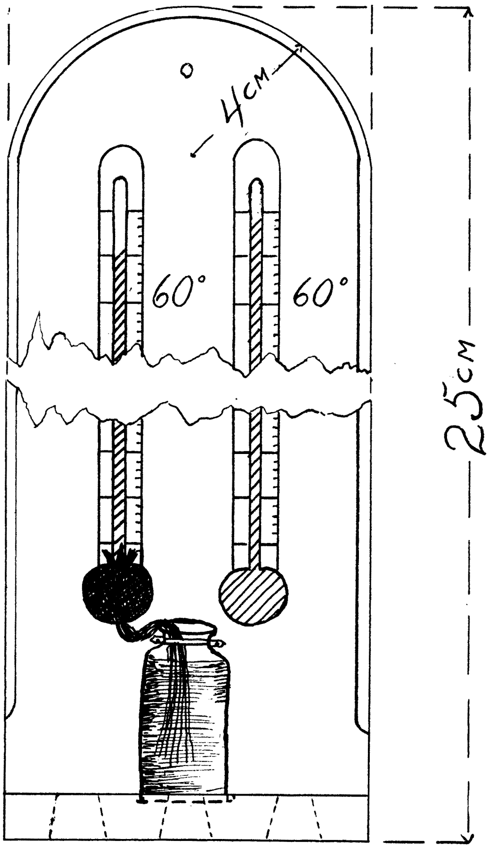


Note. — In order to give facility in the use of the metric system of measurement the dimensions of these pieces of apparatus will be given in metric units.

Mechanical Drawing: Orthographic projection applied to working drawings.

Designing: Preliminary drawings for a piece of woodwork for a Christmas present.

Theory: The Physical Basis of Manual Training.



HYGROMETER.

Academic School

First Grade: Canvas-covered frame for stretching and holding water-color paper.

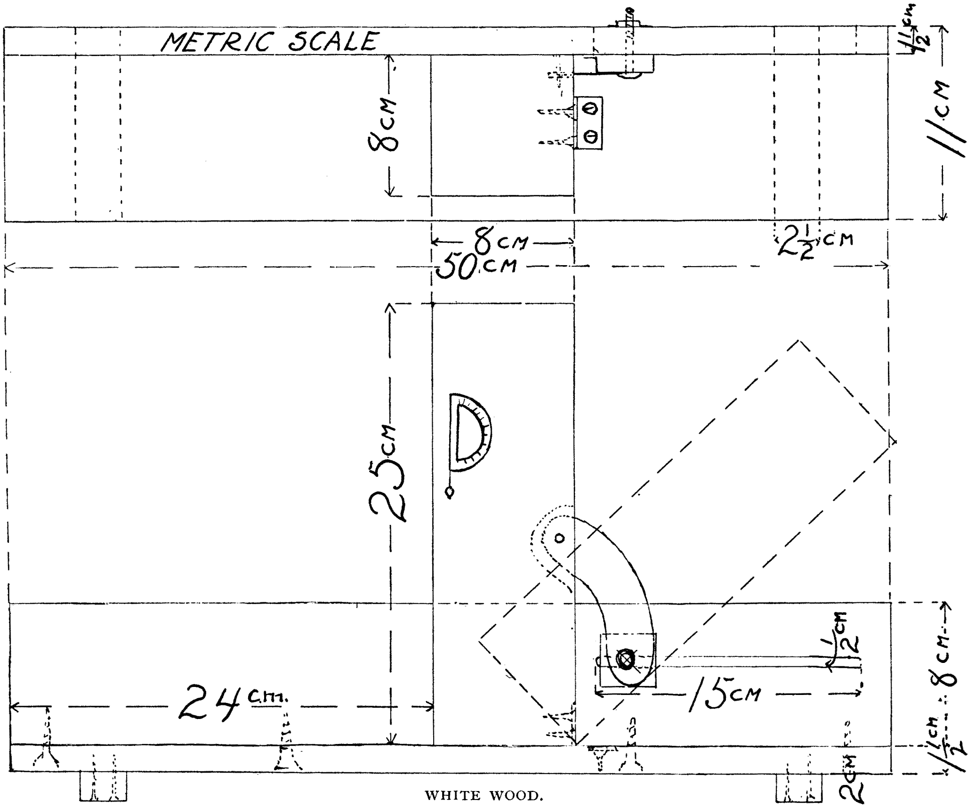
Material, white pine, ⅝ inch thick; poplar, ¼ inch.

Dimensions of frame, 14 inches by 10 inches.

Directions: Prepare two pieces, 14 inches by 1 inch by ⅝ inch, and two pieces 8 inches by 1 inch by ⅝ inch.

Nail the two long pieces upon the ends of the shorter pieces, making rectangle 14 inches by 10 inches. Prepare strip of ¼-inch white-

The Skiameter.



WHITE WOOD.

wood 18 inches long and 1 inch wide. Use this strip for braces for the corners (laying off 2 inches from each corner on each edge of the frame). Nail the strip in place first. Then saw off, using the edge of the frame as a guide in sawing the miter. Cover the frame on one side with heavy cotton cloth. Paint canvas.

Second Grade: Loom like drawing given below, except that the frame is 15 inches by 11 inches, and the upright pieces are simply nailed to the inside corners of the frame without being cut out to bring their outside surfaces even with the outside of the frame.

Third Grade: Painting stretcher. White pine, ¾ inch thick. Dimensions, 14 inches by 10 inches. Strips 1 inch wide. Made with half-lapped joints, glued and nailed.

Fourth Grade: Loom.

In place of the harness and heddles use a piece of stiff, tough cardboard (jute board), 10½ inches by 5 inches, inclosed in a thin wooden frame. Saw off in the center of this rectangle of cardboard another rectangle 9½ inches by 3½ inches. Divide this, crossing at right angles to long edge with slits ⅛ inch wide, spaced ¼ inch apart. In the middle of each ¼ inch space make a hole about $\frac{1}{16}$ inch in diameter. In setting up the loom, alternate threads of the warp pass through slit and hole, fastening on the stationary rod, and rolling up on the other one.

Fifth Grade: Colonial loom; one loom to be made by whole grade. Painting stretchers, 17 by 14 inches, ⅞-inch pine. Half-lapped joints; 1½-inch strips.

Sixth Grade: Platforms for use of primary grades (first and second) at Manual Training benches.

Dimensions, 24 by 14 inches by 5 by 4 inches; ⅞-inch pine.

Seventh Grade: Painting stretchers. 17 by 14 inch pine. Mitered joints; 1½-inch strips.

T-squares, 22 inches long. (See July COURSE OF STUDY for plans and dimensions, except length.) Wood: oak or cherry.

Eighth Grade: Apparatus for Nature Study: Skiameter, hygrometer, insect-drying board. (Two or three of each.)

Drawing Boards: See July number of COURSE OF STUDY for plan and dimensions.

Drawing: Plans for Christmas presents.

High School: Science Apparatus. Clay modeling tools for use of school. T-squares and triangles.

Drawing: Designs and plans for furniture for teachers' rest-room and for lunch-room of new building.

LOOM.